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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
KENJI SUZUKI, ET AL. : EXAMINER: TESKIN, FRED M.
SERIAL NO: 10/532,244 :
FILED: APRIL 22, 2005 : GROUP ART UNIT: 1796
FOR: CURABLE RESIN COMPOSITION :
AND FLEXOGRAPHIC PLATE
MATERIAL USING THE SAME

DECLARATION UNDER 37 C.F.R. §1.132

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

I, Dai KATAOKA, hereby declare:

1. In March 2004, I received a master degree from Kyoto University in Kyoto, Japan, in the field of science.
2. I have been employed by Kuraray Co., Ltd. ("Kuraray"), the assignee of the above-captioned patent application, from April 2004 to the present.
3. From August 2004 to the present, I worked as a researcher for Kuraray in the area of styrene elastomer research.
4. I am familiar with the above-captioned patent application. I am also familiar with and have worked with the products and methods described in the above-captioned patent application.
5. I am familiar with U.S. Patent No. 5,250,389 to Nakamura et al. ("Nakamura"), which I have been informed has been cited in a rejection of the claims of the above-captioned

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patent application. I am also familiar with and have worked with the products and methods described in Nakamura.

6. I and/or those under my direct supervision carried out the following experimentation:

a) Example 7 of Nakamura describes a "poly α -methylstyrene-polybutadiene-poly α -methylstyrene" triblock copolymer with a specific α -methylstyrene content, a specific vinyl bond content and a specific melt index. See Nakamura, column 13, lines 44 to 50. Such a triblock copolymer was prepared according to a conventional process. The obtained triblock copolymer had an α -methylstyrene content of 30%, a vinyl bond content of 30% and a melt index of 10, and is referred to herein as to as "block copolymer 4."

b) Block copolymer 4 was combined with the other constituents identified in Example 7 of Nakamura to form a sheet, and the sheet was evaluated for "tensile strength at break," "elongation at break," "shape stability of uncured plate" and "reproducibility of negative image," as described in the specification of the above-captioned patent application at page 26, line 8 to page 27, line 25 and page 35, line 7 to page 36, line 9. The evaluation of the sheet according to Example 7 of Nakamura is identified as "Comparative Experiment 1." The components of the sheet of Comparative Experiment 1 and the evaluation results obtained therefrom are set forth in the TABLE below.

c) For the purposes of comparison, the components of the sheet of Example 4 of the above-captioned patent application and the evaluation results obtained therefrom are also set forth in the TABLE below.

d) For the purposes of further comparison, block copolymer 4 was combined with the other constituents identified in Example 4 of the above-captioned patent application to form a sheet, and the sheet was evaluated for "tensile strength at break," "elongation at break," "shape stability of uncured plate" and "reproducibility of negative image," as

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described above. That is, Example 4 of the above-captioned patent application was repeated except that block copolymer (I) -1 was replaced with the block copolymer 4. The evaluation of the sheet is identified as "Comparative Experiment 2." The components of the sheet of Comparative Experiment 2 and the evaluation results obtained therefrom are set forth in the TABLE below.

TABLE

	Example 4	Comparative Experiment 1	Comparative Experiment 2
(Component)	(Proportion (% mass))		
Block copolymer (I)-1	60		
Block copolymer 4		100	60
Liquid polybutadiene (NISSO-PB C-1000)	33		33
1,9-nonanediol diacrylate	5		5
Benzophenone	1.5		1.5
Liquid polybutadiene (Mn = 2,000)		33	
Dioctyl fumarate		17	
Polypropyleneglycol diacrylate		5	
2,2-dimethoxy-2-phenylacetophenone		3	
2,6-di-t-butyl cresol	0.5	0.3	0.5
Tensile strength at break (MPa)	8.1	4.1	4.0
Elongation at break (%)	300	180	160
Shape stability of uncured plate	G	NG	NG
Reproducibility of negative image	G	NG	NG

7. The results of the experimentation described above can be summarized as follows:

a) As is evident from the evaluation results set forth in the TABLE, the curable resin composition of Comparative Experiment 1 (which uses block copolymer 4 including an

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α -methylstyrene aromatic vinyl polymer block), corresponding to Example 7 of Nakamura, yields insufficient results for evaluations of "tensile strength at break," "elongation at break," "reproducibility of negative image" and "shape stability of uncured plate." Insufficient results are obtained because the block copolymer is crosslinked only at a polybutadiene block part and not at an α -methylstyrene block part. By contrast, the curable resin composition of Example 4 of the above-captioned patent application provides excellent results in evaluations of "tensile strength at break," "elongation at break," "shape stability of uncured plate" and "reproducibility of negative image." The excellent results are obtained because the block copolymer is crosslinked at an aromatic vinyl polymer block part therein.

b) As is also evident from the evaluation results set forth in the TABLE, the curable resin composition of Comparative Experiment 2 (which corresponds to Example 4 of the present specification, as modified to include block copolymer 4), yields insufficient results for evaluations of "tensile strength at break," "elongation at break," "reproducibility of negative image" and "shape stability of uncured plate." Insufficient results are obtained because the block copolymer is crosslinked only at a polybutadiene block part and not at an α -methylstyrene block part.

c) The foregoing experimentation reveals that unexpected, superior results are obtained by using block copolymers including a polymer block including an aromatic vinyl compound unit containing at least 10% by mass of an alkylstyrene-derived structural unit in which at least one alkyl group having 1 to 8 carbon atoms is bound to a benzene ring, as recited in claim 1 of the above-captioned patent application.

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8. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true; these statements were made with the knowledge that willful false statements are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing therefrom.

Date: May 26, 2008

Dai Kataoka
Dai KATAOKA